

Querying Files and Variables

Shows how to query file contents and variables informations
In this example we'll show how to query files and variable
grey text shows output from cdat

```
import cdms,sys
f=cdms.open(sys.prefix+'/sample_data/clt.nc')

# Query "file" attributes
f.listglobal()

['center', 'comments', 'Conventions', 'model']

print f.Conventions

COARDS

# Now query the file for variables
f.listvariables()

['clt', 'u', 'v']

# We can also query for dimensions
f.listdimension()

['plev', 'latitude1', 'latitude2', 'time1', 'longitude1', 'longitude2', 'longitude', 'time', 'lati

# To query a variable without actually loading it
# in memory first, use a "File Variable" by using []
# Here we create the file variable pointing to 'clt'
# And query it for all available info
V=f['clt']
V.info()

*** Description of Slab clt ***
id: clt
shape: (120, 46, 72)
filename: /lgm/cdat/latest/sample_data/clt.nc
missing_value: None
comments: YONU_AMIP1
grid_name: YONU4X5
grid_type: gaussian
time_statistic: average
long_name: Total cloudiness
units: %
Grid has Python id 0x11dc350.
Gridtype: gaussian
Grid shape: (46, 72)
Order: yx
** Dimension 1 **
Â id: time
Â Designated a time axis.
Â units: months since 1979-1-1 0
```

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Â Length: 120
Â First: 0.0
Â Last: 119.0
Â Python id: 0x11dc5a8
** Dimension 2 **
Â id: latitude
Â Designated a latitude axis.
Â units: degrees_north
Â Length: 46
Â First: -90.0
Â Last: 90.0
Â Other axis attributes:
Â long_name: Latitude
Â Python id: 0x11dc698
** Dimension 3 **
Â id: longitude
Â Designated a longitude axis.
Â units: degrees_east
Â Length: 72
Â First: -180.0
Â Last: 175.0
Â Other axis attributes:
Â long_name: Longitude
Â Python id: 0x11dc648
*** End of description for clt ***

```

```

# This was just a print statement, we can actually
# query the variable for specifics
V.listattributes()

```

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['units', 'time_statistic', 'long_name', 'grid_name', 'comments', 'missing_value', 'grid_type']

V.listdimnames()

['time', 'latitude', 'longitude']

```

```

# To query a dimension you can either get it
# from the file or from the variable
time=f['time']
time.getAxis(0)
time=V.getTime()
# Time, Level, Latitude, Longitude can be retrieved
# directly independently of where they are in
# the variable, using getTime, getLevel, getLatitude,
# or getLongitude()

```